

Hurricane Harvey Story Map

Draft Content (9/3/17)

INTRODUCTION

EPA has a decades of experience responding to man-made and natural disasters, including hurricanes. In advance of Hurricane Harvey, EPA activated emergency response centers in Washington D.C., Dallas, TX, and Atlanta, GA. Prior to the storm, EPA personnel were prepared and ready to deploy if requested by the states impacted by the Hurricane through the Federal Emergency Management Agency (FEMA). EPA's Region 6 office in Dallas, TX took action to ensure that Superfund Sites were secured, and developed a plan to assist the Texas Commission on Environmental Quality (TCEQ) in rapidly assessing approximately 300 public water systems. Region 6 EPA processed emergency fuel waiver requests, and laid the groundwork for seamlessly integrating emergency response activities with Texas, Louisiana, and other local, tribal, and federal response agencies.

Hurricane Harvey hit the Texas Coast as a Category 4 Hurricane on August 25, 2017. An Emergency Support Function (ESF-10) Mission Assignment was signed on August 28, 2017. EPA, Texas Commission on Environmental Quality (TCEQ), TCEQ, the Texas General Land Office (TGLO), and the U.S. Coast Guard (USCG) entered into established a Unified Command in Corpus Christi to begin evaluation, clean-up and recovery of spills, releases, and orphan containers.

WHAT WE ARE DOING?

Corpus Christi

Unified Command teams deployed to the Corpus Christi Branch are rapidly assessing public water supplies, wastewater treatment plants, and industrial facilities to determine if they are damaged and releasing wastes and hazardous materials into floodwaters. EPA and TCEQ are working to monitor facilities that have reported spills. As of Sept. 2, half of the 4,500 drinking water systems potentially affected by Harvey have been contacted. Of those, 1,514 systems are fully operational, 166 have boil-water notices, and 50 are shut down. Currently, 1,656 of approximately 2,469 wastewater treatment plants are fully operational in the affected counties. Teams are working with system operators to expedite bringing systems back in operation.

Austin

FEMA has located a Joint Field Office (JFO) in Austin where FEMA, EPA, US Coast Guard USCG and other federal, state, tribal, and local and tribal partners are coordinating response activities, including the release of joint information to the public. At the State Operation Center in Austin, TX, EPA is working with TCEQ to contact industrial sources within

the flood impacted area to determine their operational status and find out what support is needed for the start-up of industrial sources along the coastal area of Texas.

Houston

EPA and TCEQ Teams from the Houston Branch performed reconnaissance including 28 hazard evaluations and oil discharge assessments.

WHAT ASSETS ARE WE USING?

ASPECT

ASPECT stands for EPA's Airborne Spectral Photometric Environment Collection Technology (ASPECT). The surveillance aircraft flew through the fire at the Arkema chemical plant in Crosby, TX to monitor for exas. The aircraft monitored for airborne toxic chemicals. EPA's ASPECT Program is the nation's only 24/7/365 emergency airborne platform equipped with special chemical, radiological, and situational awareness instruments a suite of sensors and software mounted in a fixed wing, single engine aircraft and uses the principles of remote hazard detection to image, map, identify, and quantify chemical vapors and deposited radioisotopes. For example, it can detect chemicals and radiation while collecting aerial photos and videos for situational awareness during an emergency day or night. The information collected can then provide first responders -- emergency workers at the scene -- with actionable information on the situation.

TAGA

The Trace Atmospheric Gas Analyzer (TAGA) is a self-contained mobile laboratory capable of real-time sampling of outdoor air or emissions. The instrumentation refers both to the analytical instrument and the mobile laboratory built around it. This versatile mobile monitoring system offers a wide variety of services to assist EPA with cost-effectively conducting investigatory activities.

The instrumentation aboard a TAGA mobile laboratory includes real-time monitoring and analyzing for many organic and inorganic compounds at the part-per-billion by volume (ppbv) levels or lower. The TAGA has high precision Global Positioning System (GPS) and Geographical Information System (GIS) to pinpoint any identified chemicals/gases sampling locations on a map.

PHILIS

EPA's Portable High-throughput Integrated Laboratory Identification System (PHILIS) is EPA's mobile laboratory asset is used for remote or on-site analysis during natural disasters, accidental releases, man-made terrorist, and other incident response actions. It was created to address gaps in the Nation's increase capabilities and capacity to analyze contaminated environmental

samples – soils, waters, surface wipes, and air matrices. PHILIS has the capability to analyze detection limits centered on health-based clearance levels. It is National Environmental Laboratory Accreditation Program (NELAP) Accredited & Clean Water Act certified laboratory and part of EPA's Emergency Response Laboratory Network (ERLN).

HOW IS EPA ASSESSING POSSIBLE DAMAGE TO SUPERFUND SITES?

EPA has conducted initial assessments at 41 Superfund sites in the impacted areas using aerial images, as well as direct contact with the parties responsible for on-going cleanup activities. EPA has determined that 28 Superfund sites in the area do not currently show damage or excessive flooding associated with Harvey. EPA determined that 13 sites have been flooded and/or are experiencing possible damage due to the storm. Of these sites, two (Falcon Refinery and the Brine Service) have been inspected and it has been determined that they do not require emergency cleanup; although, additional sampling in the area will continue to be conducted. Eleven sites, including: Bailey Waste Disposal, French LTD, Geneva Industries/Fuhrmann Energy, Gulfco Marine, Highland Acid Pit, Malone Services, U.S. Oil Recovery, Patrick Bayou, Petro-Chemical Systems, Triangle Chemical, and San Jacinto Waste Pits have not been accessible by response personnel. Teams are in place to investigate possible damage to these sites as soon flood waters recede, and personnel are able to safely access the sites. The San Jacinto Waste Pits site has a temporary armored cap designed to prevent migration of hazardous material; the cap will be inspected as soon as it is safe for teams access the site. Based on forecasted river conditions, this inspection is planned for Monday, by boat. EPA has dive teams to survey the cap underwater when conditions allow. EPA, TCEQ and other authorities will continue to provide additional updates as we gather them. We encourage the community to continue to follow the expert safety advice of local officials.

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EPA conducted aerial assessments at 41 Superfund sites in areas affected by Hurricane Harvey.
28 — Show no damage
13 — Experienced flooding; two of which have been inspected and determined to require no emergency clean-up. Eleven sites are inaccessible due to flood waters. There are teams ready to inspect them once floodwaters recede. *(Map to allow for linking to each NPL site)*

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Is EPA Supporting Hurricane Impacted Industrial Facilities?

Arkema Facility, Crosby, TX

At the Arkema chemical plant in Crosby, emergency responders undertook a 24-hour operation to monitor the facility due to fires that erupted on Aug. 31 and Sept. 1, 2017. EPA and TCEQ continue to provide direct support to the Crosby Volunteer Fire Department, Harris County Office of Homeland Security and Emergency Management, and the Harris County Fire Marshal. There is the threat of more fires at the facility. Because of the threat of more fires at the facility and additional damage to the facility or potential fires spreading into the surrounding area, the

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Crosby Volunteer Fire Department and the Harris County Fire Marshal's Office performed a controlled burn of the remaining material. - Focus remains on the safety of those around the facility. EPA and partners continue to monitor smoke and air quality, the potential for additional fires in the area, and have aerial assets ready to be deployed, as needed. Everyone in the area should follow the safety instruction of local authorities.

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Conoco Phillips, Cuero, TX

On August 31st, The Conoco Phillips facility in Cuero, TX reported an oil spill that was caused by impacts from Hurricane Harvey. The spill has impacted Denton Creek. EPA responded to the spill, along with the Texas Railroad Commission and the USCG, with an emergency response team from the Corpus Christi Incident Command Post to assess the spill. No oil sheen was observed at the time, and the team will continue to assess the the facility. Conoco Phillips reported the release totals 385 barrels of oil and 76-barrel produced water since the tanks are on their side.

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Valero, Houston, TX

EPA is conducting ambient air monitoring in Houston and evaluating a potential concern at the Valero Refinery site. EPA deployed the Trace Atmospheric Gas Analyzer (TAGA) to conduct air monitoring in the area and an on-scene coordinator has been deployed to conduct additional assessments.

IS EPA TESTING FLOODWATERS FOR PUBLIC SAFETY?

Under the Unified Command, EPA's water quality sampling is focused on industrial facilities and hazardous waste sites. Floodwaters contain many hazards, including bacteria and other contaminants. Precautions should be taken by anyone involved in cleanup activities or any others those who may be exposed to flood waters. These precautions include following heeding all warnings from local and state authorities regarding safety advisories. In addition to the drowning hazards of wading, swimming, or driving in swift floodwaters, these waters can carry large objects that are not always readily visible that can cause injuries to those in the water. Other potential hazards include downed power lines and possible injuries inflicted by animals displaced by the floodwaters.

